

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 11-012123

(43)Date of publication of application : 19.01.1999

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(51)Int.Cl.

A61K 7/00

A61K 9/70

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(21)Application number : 09-185944

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(22)Date of filing : 25.06.1997

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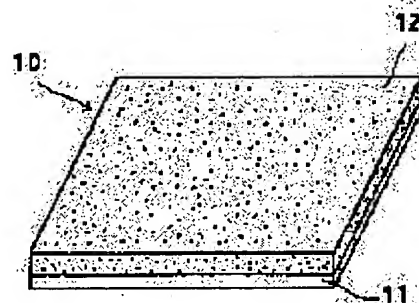
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## (54) WATER-ACTIVATED DEPILATORY SHEET

### (57)Abstract:

PROBLEM TO BE SOLVED: To obtain a sheet for chemical depilatory sheets, hardly leaving coat when released and capable of extremely simply handling.

SOLUTION: This water-activated depilatory sheet 10 is obtained by forming an attaching layer 12 containing a film-forming polymer such as polyvinylpyrrolidone or polyacrylic acid and a depilatory medicine such as thioglycolic acid or sodium sulfide onto a hydrophobic support having moisture permeability, e.g. polyester nonwoven fabric or polypropylene nonwoven fabric.



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## LEGAL STATUS

[Date of request for examination] 13.11.2003

[Date of sending the examiner's decision of rejection] 31.05.2005

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's  
decision of rejection]

[Date of requesting appeal against examiner's  
decision of rejection]

[Date of extinction of right]

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CLAIMS

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[Claim(s)]

[Claim 1] The water activation depilation sheet which has the hydrophobic base material which has moisture permeability, and a pasting layer containing a coat plasticity polymer and a depilatory object.

[Claim 2] Said hydrophobic base material is a water activation depilation sheet according to claim 1 which is a nonwoven fabric.

[Claim 3] The water activation depilation sheet according to claim 1 or 2 characterized by preparing the grasping section by which said pasting layer is not formed in said hydrophobic base material.

[Claim 4] The water activation depilation sheet according to claim 1, 2, or 3 with which the separator protruded above said grasping section is characterized by carrying out a laminating on said pasting layer.

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DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to a water activation depilation sheet. Specifically, it is related with the water activation depilation sheet of the depilatory object content type which shows adhesiveness, removes the coat formed after desiccation, and depilates hand and foot etc. by carrying out humidity by hydrophilic media, such as water or ethyl alcohol, and methyl alcohol.

[0002]

[Description of the Prior Art] The chemical depilatory containing a depilatory object is used as a depilatory from which people's hand and foot and the hair under \*\* are removed, and those many are supplied for this chemical depilatory as a thing of the shape of the shape of a paste, and a cream.

[0003] Although the chemical depilatory had very few pains at the time of use compared with the physical depilatory which draws out hair compulsorily, the thing of the shape of the above-mentioned shape of a paste and a cream had to be wiped off with absorbent cotton etc. at the time of removal, or had to be flushed, and its after treatment was troublesome.

[0004] As it was indicated by JP,61-221112,A, JP,61-282311,A, etc. in order to solve the starting trouble for example, the chemical depilatory which constitutes a depilatory from the polymer and depilatory object which have a coat plasticity, dries the applied depilatory, and formed the coat is developed.

[0005] However, even if it was in the such type depilatory, it had problems, such as difficulty at the time of the beginning of using -- there are many things of the shape of the shape of liquid, the shape of a paste, and a cream, it is difficult to apply to homogeneity at the time of use, and a hand becomes dirty.

[0006] On the other hand, the sheet-like depilatory beforehand formed in the shape of a sheet using the coat plasticity polymer is indicated by JP,62-103010,A etc.

[0007] It is used for this sheet-like depilatory for the sheet-like depilatory which demonstrates adhesiveness, stuck the sheet-like depilatory on the skin side which applied the water of optimum dose etc. to the pasting side of a sheet-like depilatory, stuck on the application site or applied the water of optimum dose etc., and was dried after fixed time amount progress after that by soaking with the water or the hydrophilic solvent of optimum dose at the time of use, tearing off. If it is in the sheet-like depilatory concerned, since it can stick by soaking in water etc. at the time of use, operation is easy and can remove hair uniformly.

[0008] However, if a coat was not fully dried, when there was a possibility that a coat may remain in a skin side, at the time of exfoliation and a base material was especially formed from the ease of handling at it like a chemical depilatory coat plasticity type [, such as the shape of an above-mentioned paste, ], there was a trouble that only a base material will exfoliate.

[0009] It is rare to make this invention in view of the fault of the above-stated conventional example, and for a coat to remain at the time of exfoliation, and it is to offer a chemical depilation sheet with very simple handling.

[0010]

[Means for Solving the Problem] The water activation depilation sheet of this invention is characterized by having the hydrophobic base material which has moisture permeability, and a pasting layer containing a coat plasticity polymer and a depilatory object.

[0011] As the hydrophobic base material concerned, it is desirable especially to use a nonwoven fabric, and it is desirable to prepare the grasping section by which said pasting layer is not formed in the hydrophobic base material concerned.

[0012] Moreover, it is desirable to carry out the laminating of the separator on a pasting layer, so that it may overflow above said grasping section.

[0013]

[Embodiment of the Invention] The perspective view of the water activation depilation sheet whose drawing 1 is the gestalt of 1 operation of this invention, the perspective view of the water activation depilation sheet whose drawing 2 is the gestalt of another operation of this invention, drawing 3, and drawing 4 are the top views of the water activation depilation sheet which is the gestalt of still more nearly another operation of this invention, respectively. Hereafter, this invention is explained to a detail according to each drawing.

[0014] The pasting layer 12 containing a coat plasticity polymer and a depilatory object is formed on the base material 11 with which each water activation depilation sheet 10 shown in drawing 1 - drawing 4 carried out the shape of the shape of a sheet, and a film.

[0015] A base material 11 must have moisture permeability, and if it is the thing of non-moisture permeability, moisture does not evaporate from the front face of a base material 11, and it cannot promote the desiccation after pasting.

[0016] Moreover, a base material 11 must have hydrophobicity. In here, that to which compatibility with water says a hygroscopic (absorptivity) small thing weakly that is, and hydrophobicity tends to absorb water like textiles, such as a cheesecloth, is removed. That is, while the water used in order to apply gauze on a skin side is absorbed by the base material 11 and what has a hydrophilic property like a textile stops being able to acquire moderate adhesiveness and moderate pH easily, the moisture absorbed by the base material 11 needs to evaporate and it will require the drying time. Consequently, a pasting layer will exfoliate in the condition of fully not drying, and will produce stiffness of coat residue \*\*\*\*\* in a skin side.

[0017] That is, the base material 11 used for this invention will not be limited, especially if it is hydrophobicity and is the sheet-like object or film-like object which has moisture permeability. Structurally, although you may be any of sheet-like objects, such as textile fabrics, a nonwoven fabric or a porous film, and an infiltrative film, or a film-like object, the viewpoint which a base material 11 is infiltrated and can form a part of viewpoint which can come to hand cheaply, and pasting layer 12 to especially a nonwoven fabric is desirable.

[0018] Moreover, various synthetic fibers, such as one sort, the sheet and film which were used two or more sorts or nylon, polyester, polyethylene, polypropylene, polyurethane, a cellulose, rayon, and acetate, can be used for polyester, nylon, saran, polyethylene, polypropylene, an ethylene-vinylacetate copolymer, an ethylene-ethyl-acrylate copolymer, polytetrafluoroethylene, an ionomer, polyacrylonitrile system resin, etc. in quality of the material. In addition, in this invention, it is two-layer structure with the nonwoven fabric, and the hydrophilic nonwoven fabric and the hydrophobic nonwoven fabric which \*\*\*\*(ed) hydrophilic fiber, such as rayon and cotton, by 55 or less % of the weight of the ratio, and even if the ratio of a hydrophilic nonwoven fabric is 55 or less % of the weight of the thing of all textile fabrics, if it has said hydrophobic description for the fiber which consists of the hydrophobic above-mentioned quality of the material, it can be used for it.

[0019] Moreover, the pasting layer 12 used for this invention contains a film-forming polymer and a depilatory object. The polymer used for the so-called PIRU off type of charge of makeup with a film-forming polymer in this invention, That is, while the pasting layer 12 formed on the base material 11 is soaked in hydrophilic media, such as water or ethyl alcohol, and methyl alcohol, it is stuck on a pasting part. After drying after fixed time amount neglect progress, the polymer which forms a coat is meant, and it will not be limited especially if it has adhesiveness with the water applied at the time of use. For example, a polyvinyl pyrrolidone, polyacrylic acid and its salt, polyacrylamide, a carboxymethyl cel roll, methyl cellulose, hydroxyethyl cellulose, hydroxypropylcellulose, a polyethylene glycol, gum arabic, tragacanth gum, etc. are mentioned, and one sort or two sorts or more can be used for these.

[0020] What demonstrates the effectiveness which starts under existence of water preferably that what is necessary is just the drug which is not limited especially as a depilatory object and dissolves the keratin in hair is good. For example, thioglycolic acid, the salts and strontium sulfate, a sodium sulfide, a

barium sulfide, calcium sulfide, etc. are mentioned, and one sort or two sorts or more can be used for these. The depilatory object concerned is preferably blended one to 45% of the weight into the pasting layer 12 by 5 - 40% of the weight of within the limits.

[0021] Moreover, various kinds of additives can be made to contain if needed in the pasting layer 12. For example, a urea etc. can be added as a swelling accelerator of hair, or various drugs, natural aromatic, synthetic perfume, etc. including antiphlogistics, such as various emulsifiers, such as polyoxyethylene glycol and a fatty-acid monoglyceride, glycyrrhizin, and an azulene sulfonate, can be added.

[0022] Furthermore, a plasticizer can be added from the purpose which controls the vapor rate of moisture or gives flexibility, or various kinds of bulking agents can be added from the viscosity control of the pasting layer 12, or the purpose of coloring. As a plasticizer, a polyethylene glycol, a polypropylene glycol, a glycerol, polyglycerin, a sorbitol, etc. are mentioned. Moreover, as a bulking agent, the various organic substance thru/or inorganic substances, such as various inorganic oxides, such as a silica, an alumina, a zinc oxide, titanium oxide, talc, clay, a kaolin, and glass, thru/or an organic-acid ghost or a barium sulfate, a calcium carbonate, ceramics, carbon, and metal fine particles, are mentioned.

[0023] Among the above-mentioned depilatory object, if it is in thioglycolic acid, its salt, etc., the catabolic rate of a keratin is promoted under alkalinity and the effectiveness is demonstrated effectively. Therefore, when the drug concerned is used, it is desirable that it is the bottom alkalinity of humid. For this reason, it is desirable to blend an alkali into the pasting layer 12. As this alkali, a sodium hydroxide, a calcium hydroxide, triethanolamine, etc. are mentioned, for example. Although the amount to blend changes with alkalis to be used, it is desirable 9-13, and for pH of the pasting layer 12 of a final product to blend so that it may be desirably set to 10-12. It can be referred to as suitable pH of a depilatory object, when it is soaked in extent which can be moderately stuck on a skin side according to an anticipated-use method so that by adjusting to pH of this range may describe below. Moreover, if pH exceeds 13, since the stimulus to the skin will become large, it is not desirable. In addition, this pH can dissolve the pasting layer 12 in water, and can obtain it by measuring what was used as the water solution 10% of the weight with a commercial pH meter.

[0024] The water activation depilation sheet 10 concerning this invention is producible as follows. It applies to extent from which the pasting layer 12 of the water of optimum dose or/and a hydrophilic medium, and the thickness that, in addition to this, adds various kinds of additives if needed, is fully mixed, produces coating liquid, and asks for the coating liquid concerned is obtained in the process paper at the above-mentioned coat plasticity polymer or a depilatory object. And the laminating of the above-mentioned base material 11 is carried out, this thing is fully dried, and the pasting layer 12 is formed on a base material 11. If it is at this time when using the base material 11 which consists of a nonwoven fabric as described above, it is good to make it make some base materials 11 buried in the pasting layer 12. Thus, if it is made to make some base materials 11 buried, the anchoring force between a base material 11 and the pasting layer 12 will improve, and exfoliation residue after exfoliation (coat) can be lessened more.

[0025] Then, the water activation depilation sheet 10 which exfoliates process paper and is applied to this invention is obtained. Moreover, when the laminating of the separator 13 may be carried out and it uses a separator 13 on the pasting layer 12 concerned if needed so that it may mention later, on a separator 13, direct coating liquid can be applied and the pasting layer 12 can also be formed.

[0026] In this way, the pasting layer 12 of the obtained water activation depilation sheet 10 shows adhesiveness by the applied water or the hydrophilic medium, and after it applies the water of optimum dose etc. to the front face of the pasting layer 12 at the time of use or applies the water of optimum dose etc. to a pasting part, it is used for the water activation depilation sheet 10 concerned by it, sticking. At this time, with the applied water, the pasting layer 12 will once be in humidity or the condition of having dissolved, and a coat plasticity polymer will twine round hair uniformly. Moreover, the keratin in hair is dissolved by the depilatory object dissolved by the applied water, and hair is cut with it. In this way, the cut hair is incorporated in the coat formed by drying, and exfoliation removal is carried out with a base material 11 and a coat. Thus, it can be easily used also at the time of use, and it can remove hair comparatively, without also leaving exfoliation residue between short time.

[0027] As mentioned above, after sticking on a skin side, the water activation depilation sheet 10 concerning this invention exfoliates, and is used. For this reason, it must be made to have to remove the

stuck depilation sheet 10 by a pawl etc. at the time of exfoliation, the pasting layer 12 sticks to a skin side, and it may be hard to remove, or, occasionally a skin side may be damaged by the pawl. Therefore, it is convenient to form the grasping section 14 by which the pasting layer 12 is not formed in the base material 11.

[0028] If it is in the water activation depilation sheet 10 shown in drawing 2, the grasping section 14 is formed in one edge of a base material 11. The grasping section 14 concerned can be easily formed by applying only to a predetermined field the coating liquid which consists of the above-mentioned coat plasticity polymer, a depilatory object, etc. Thus, if the grasping section 14 is formed, it can leave base material 11 part which is not stuck on a skin side, and a base material 11 can be held easily, without removing by a pawl etc. Therefore, the depilation sheet 10 can be exfoliated easily, without damaging a skin side.

[0029] Moreover, the laminating of the separator 13 is carried out on the pasting layer 12 of the water activation depilation sheet 10 concerned. Water or the hydrophilic medium which were used by the production process depending on the presentation of the pasting layer 12 may fully be evaporated, and it may have been tintured a little with adhesiveness. In this case, the laminating of the separator 13 is carried out from a viewpoint on storage etc. The separator 13 concerned is not limited especially if used as a separator 13 of large general pasting material, and metal films, such as plastic film, such as polyester, polyethylene, and polypropylene, and aluminum foil, other various films, sheets, etc. can be used for it. Moreover, even if it uses for paper of fine quality, glassine, the parchment papers, or these releasing papers the paper of fine quality which laminated polyethylene etc., it does not interfere.

[0030] The separator 13 concerned is produced in consideration of the ease of carrying out of not only the pasting layer 12 top but exfoliation more greatly than the pasting layer 12, and it is designed so that it may overflow above said grasping section 14. At this time, it is more desirable than a base material 11 to make it not become large so that wrapping may not become large superfluously. Therefore, at the time of exfoliation, it can have the flash part concerned, and can carry out at a burden small also in cost.

[0031] Moreover, you may prepare in the periphery section of a base material 11 like the water activation depilation sheet 10 which especially the location in which the above-mentioned grasping section 14 is formed is not limited, either, and you may make it prepare in the both ends of a base material 11 like the water activation depilation sheet 10 shown in drawing 3, or is shown in drawing 4.

[0032]

[Example] Next, the water activation depilation sheet which is the water activation depilation sheet and the example of a comparison concerning this invention which are a concrete example was produced, and the effectiveness of this invention was checked.

[0033] (Example 1) Stirring mixing of the water of the polyvinyl-pyrrolidone 20 weight section of number average molecular weight 1,200,000, the glycerol 5 weight section, the calcium thioglycollate 5 weight section, the calcium-hydroxide 1.5 weight section, and optimum dose was carried out, and coating liquid was obtained. It applied to homogeneity on the polyester film which performed exfoliation processing with a thickness of 50 micrometers it is thin to a separator so that the thickness after drying this coating liquid might be set to 300 micrometers. Furthermore, on the coating liquid concerned, it dried, after carrying out the laminating of the basis weight of 40g/the polyester nonwoven fabric of m2 used as a base material, and the water activation depilation sheet of an example 1 was obtained. In addition, the water content of this thing was 28 % of the weight, and pH was 12.

[0034] (Example 2) Stirring mixing of the sodium polyacrylate 22 weight section, the sodium-thiosulfate 7 weight section, the sodium-hydroxide 2 weight section, and the suitable water of number average molecular weight 100,000 was carried out, and coating liquid was obtained. It applied to homogeneity on the polyester film which performed exfoliation processing with a thickness of 50 micrometers it is thin to a separator so that the thickness after drying this coating liquid might be set to 250 micrometers. Furthermore, on the coating liquid concerned, it dried, after carrying out the laminating of the basis weight of 40g/the polypropylene nonwoven fabric of m2, and the water activation depilation sheet of an example 2 was obtained. In addition, the water content of this thing was 25 % of the weight, and pH was 12.5.

[0035] (Example 1 of a comparison) If the point using the rayon nonwoven fabric of basis-weight 40 g/m2 as a base material was removed, the water activation depilation sheet of the example 1 of a comparison was obtained like the example 1.

[0036] (Example 2 of a comparison) Except for calcium thioglycollate and a calcium hydroxide, others obtained the water activation depilation sheet of the example 2 of a comparison like the example 1.

[0037] [Evaluation trial] I had the panelist actually use the water activation depilation sheet of the examples 1 and 2 acquired above, and the water activation depilation sheet of the examples 1 and 2 of a comparison, and had you evaluate in accordance with following evaluation criteria and a following valuation basis. In addition, each depilation sheet was cut out in 5cmx8cm magnitude, and the gauze impregnated with it was applied on the part in which the pasting layer front face was soaked in the water of optimum dose, and the hair of an arm has grown, and it exfoliated after [ of an after / pasting ] 15 minutes.

[0038] [Evaluation criteria and a valuation basis]

(Depilation nature)

Fitness: Hair was able to be taken finely.

Defect: Hair remained.

(Paste remainder nature)

Fitness: A coat did not remain in the skin.

Defect: The coat remained in the skin.

(Pain at the time of exfoliation)

Fitness: A pain was not sensed.

Defect: The pain was sensed.

(Skin irritation)

Fitness: It was normal on the skin after exfoliation.

Defect: Redness was worn on the skin after exfoliation.

[0039] [Test result] A test result is shown in Table 1. If it was in the water activation depilation sheet of examples 1 and 2 as shown also in Table 1, there is also neither a pain at the time of exfoliation nor a skin stimulus, and hair was able to be removed finely. Although the coat remained in the skin side and exfoliation residue was especially seen with the water activation depilation sheet of the example 1 of a comparison, exfoliation residue was not seen if it was in the water activation depilation sheet of each example.

[0040]

[Table 1]

	脱 毛 性	糊残り性	剥離時の痛み	皮膚刺激性
実施例 1	良 好	良 好	良 好	良 好
実施例 2	良 好	良 好	良 好	良 好
比較例 1	良 好	不 良	良 好	良 好
比較例 2	不 良	良 好	不 良	良 好

[0041]

[Effect of the Invention] If it is in the water activation depilation sheet concerning this invention, since it has the hydrophobic base material which has moisture permeability, and the pasting layer containing a coat plasticity polymer and a depilatory object, after use, the depilation sheet concerned can be used [ that what is necessary is just to apply water etc. and to stick it at the time of use ] very simple that what is necessary is just to exfoliate. Since it can be made to fully dry, without spending neglect time amount especially, it can remove without a coat remaining in the skin.

[0042] While using a nonwoven fabric for the hydrophobic base material concerned can produce preferably and cheaply, making a base material buried can do a part of pasting layer easily, and few depilation sheets of exfoliation residue can be produced easily.

[0043] A depilation sheet can be removed more easily, without being able to grasp the grasping section easily and damaging a skin side by a pawl etc., if the grasping section by which the pasting layer is not formed in the hydrophobic base material is prepared at this time.



[0044] Furthermore, if the laminating of the separator is carried out on the pasting layer so that it may overflow above said grasping section, a separator can be removed easily, and when the laminating of the separator is carried out, even if it is, it can be used simple.

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TECHNICAL FIELD

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[Field of the Invention] This invention relates to a water activation depilation sheet. Specifically, it is related with the water activation depilation sheet of the depilatory object content type which shows adhesiveness, removes the coat formed after desiccation, and depilates hand and foot etc. by carrying out humidity by hydrophilic media, such as water or ethyl alcohol, and methyl alcohol.

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PRIOR ART

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[Description of the Prior Art] The chemical depilatory containing a depilatory object is used as a depilatory from which people's hand and foot and the hair under \*\* are removed, and those many are supplied for this chemical depilatory as a thing of the shape of the shape of a paste, and a cream.

[0003] Although the chemical depilatory had very few pains at the time of use compared with the physical depilatory which draws out hair compulsorily, the thing of the shape of the above-mentioned shape of a paste and a cream had to be wiped off with absorbent cotton etc. at the time of removal, or had to be flushed, and its after treatment was troublesome.

[0004] As it was indicated by JP,61-221112,A, JP,61-282311,A, etc. in order to solve the starting trouble for example, the chemical depilatory which constitutes a depilatory from the polymer and depilatory object which have a coat plasticity, dries the applied depilatory, and formed the coat is developed.

[0005] However, even if it was in the such type depilatory, it had problems, such as difficulty at the time of the beginning of using -- there are many things of the shape of the shape of liquid, the shape of a paste, and a cream, it is difficult to apply to homogeneity at the time of use, and a hand becomes dirty.

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[0008] However, if a coat was not fully dried, when there was a possibility that a coat may remain in a skin side, at the time of exfoliation and a base material was especially formed from the ease of handling at it like a chemical depilatory coat plasticity type [, such as the shape of an above-mentioned paste, ], there was a trouble that only a base material will exfoliate.

[0009] It is rare to make this invention in view of the fault of the above-stated conventional example, and for a coat to remain at the time of exfoliation, and it is to offer a chemical depilation sheet with very simple handling.

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EFFECT OF THE INVENTION

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[Effect of the Invention] If it is in the water activation depilation sheet concerning this invention, since it has the hydrophobic base material which has moisture permeability, and the pasting layer containing a coat plasticity polymer and a depilatory object, after use, the depilation sheet concerned can be used [ that what is necessary is just to apply water etc. and to stick it at the time of use ] very simple that what is necessary is just to exfoliate. Since it can be made to fully dry, without spending neglect time amount especially, it can remove without a coat remaining in the skin.

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[0044] Furthermore, if the laminating of the separator is carried out on the pasting layer so that it may overflow above said grasping section, a separator can be removed easily, and when the laminating of the separator is carried out, even if it is, it can be used simple.

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EXAMPLE

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Fitness: A pain was not sensed.

Defect: The pain was sensed.

(Skin irritation)

Fitness: It was normal on the skin after exfoliation.

Defect: Redness was worn on the skin after exfoliation.

[0039] [Test result] A test result is shown in Table 1. If it was in the water activation depilation sheet of examples 1 and 2 as shown also in Table 1, there is also neither a pain at the time of exfoliation nor a skin stimulus, and hair was able to be removed finely. Although the coat remained in the skin side and exfoliation residue was especially seen with the water activation depilation sheet of the example 1 of a comparison, exfoliation residue was not seen if it was in the water activation depilation sheet of each example.

[0040]

[Table 1]

	脱 毛 性	糊残り性	剝離時の痛み	皮膚刺激性
実施例 1	良 好	良 好	良 好	良 好
実施例 2	良 好	良 好	良 好	良 好
比較例 1	良 好	不 良	良 好	良 好
比較例 2	不 良	良 好	不 良	良 好

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[Translation done.]

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MEANS

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[Means for Solving the Problem] The water activation depilation sheet of this invention is characterized by having the hydrophobic base material which has moisture permeability, and a pasting layer containing a coat plasticity polymer and a depilatory object.

[0011] As the hydrophobic base material concerned, it is desirable especially to use a nonwoven fabric, and it is desirable to prepare the grasping section by which said pasting layer is not formed in the hydrophobic base material concerned.

[0012] Moreover, it is desirable to carry out the laminating of the separator on a pasting layer, so that it may overflow above said grasping section.

[0013]

[Embodiment of the Invention] The perspective view of the water activation depilation sheet whose drawing 1 is the gestalt of 1 operation of this invention, the perspective view of the water activation depilation sheet whose drawing 2 is the gestalt of another operation of this invention, drawing 3, and drawing 4 are the top views of the water activation depilation sheet which is the gestalt of still more nearly another operation of this invention, respectively. Hereafter, this invention is explained to a detail according to each drawing.

[0014] The pasting layer 12 containing a coat plasticity polymer and a depilatory object is formed on the base material 11 with which each water activation depilation sheet 10 shown in drawing 1 - drawing 4 carried out the shape of the shape of a sheet, and a film.

[0015] A base material 11 must have moisture permeability, and if it is the thing of non-moisture permeability, moisture does not evaporate from the front face of a base material 11, and it cannot promote the desiccation after pasting.

[0016] Moreover, a base material 11 must have hydrophobicity. In here, that to which compatibility with water says a hygroscopic (absorptivity) small thing weakly that is, and hydrophobicity tends to absorb water like textiles, such as a cheesecloth, is removed. That is, while the water used in order to apply gauze on a skin side is absorbed by the base material 11 and what has a hydrophilic property like a textile stops being able to acquire moderate adhesiveness and moderate pH easily, the moisture absorbed by the base material 11 needs to evaporate and it will require the drying time. Consequently, a pasting layer will exfoliate in the condition of fully not drying, and will produce stiffness of coat residue  
\*\*\*\*\* in a skin side.

[0017] That is, the base material 11 used for this invention will not be limited, especially if it is hydrophobicity and is the sheet-like object or film-like object which has moisture permeability. Structurally, although you may be any of sheet-like objects, such as textile fabrics, a nonwoven fabric or a porous film, and an infiltrative film, or a film-like object, the viewpoint which a base material 11 is infiltrated and can form a part of viewpoint which can come to hand cheaply, and pasting layer 12 to especially a nonwoven fabric is desirable.

[0018] Moreover, various synthetic fibers, such as one sort, the sheet and film which were used two or more sorts or nylon, polyester, polyethylene, polypropylene, polyurethane, a cellulose, rayon, and acetate, can be used for polyester, nylon, saran, polyethylene, polypropylene, an ethylene-vinylacetate copolymer, an ethylene-ethyl-acrylate copolymer, polytetrafluoroethylene, an ionomer, polyacrylonitrile system resin, etc. in quality of the material. In addition, in this invention, it is two-layer structure with the nonwoven fabric, and the hydrophilic nonwoven fabric and the hydrophobic nonwoven fabric which

\*\*\*\*(ed) hydrophilic fiber, such as rayon and cotton, by 55 or less % of the weight of the ratio, and even if the ratio of a hydrophilic nonwoven fabric is 55 or less % of the weight of the thing of all textile fabrics, if it has said hydrophobic description for the fiber which consists of the hydrophobic above-mentioned quality of the material, it can be used for it.

[0019] Moreover, the pasting layer 12 used for this invention contains a film-forming polymer and a depilatory object. The polymer used for the so-called PIRU off type of charge of makeup with a film-forming polymer in this invention, That is, while the pasting layer 12 formed on the base material 11 is soaked in hydrophilic media, such as water or ethyl alcohol, and methyl alcohol, it is stuck on a pasting part. After drying after fixed time amount neglect progress, the polymer which forms a coat is meant, and it will not be limited especially if it has adhesiveness with the water applied at the time of use. For example, a polyvinyl pyrrolidone, polyacrylic acid and its salt, polyacrylamide, a carboxymethyl cel roll, methyl cellulose, hydroxyethyl cellulose, hydroxypropylcellulose, a polyethylene glycol, gum arabic, tragacanth gum, etc. are mentioned, and one sort or two sorts or more can be used for these.

[0020] What demonstrates the effectiveness which starts under existence of water preferably that what is necessary is just the drug which is not limited especially as a depilatory object and dissolves the keratin in hair is good. For example, thioglycolic acid, the salts and strontium sulfate, a sodium sulfide, a barium sulfide, calcium sulfide, etc. are mentioned, and one sort or two sorts or more can be used for these. The depilatory object concerned is preferably blended one to 45% of the weight into the pasting layer 12 by 5 - 40% of the weight of within the limits.

[0021] Moreover, various kinds of additives can be made to contain if needed in the pasting layer 12. For example, a urea etc. can be added as a swelling accelerator of hair, or various drugs, natural aromatic, synthetic perfume, etc. including antiphlogistics, such as various emulsifiers, such as polyoxyethylene glycol and a fatty-acid monoglyceride, glycyrrhizin, and an azulene sulfonate, can be added.

[0022] Furthermore, a plasticizer can be added from the purpose which controls the vapor rate of moisture or gives flexibility, or various kinds of bulking agents can be added from the viscosity control of the pasting layer 12, or the purpose of coloring. As a plasticizer, a polyethylene glycol, a polypropylene glycol, a glycerol, polyglycerin, a sorbitol, etc. are mentioned. Moreover, as a bulking agent, the various organic substance thru/or inorganic substances, such as various inorganic oxides, such as a silica, an alumina, a zinc oxide, titanium oxide, talc, clay, a kaolin, and glass, thru/or an organic-acid ghost or a barium sulfate, a calcium carbonate, ceramics, carbon, and metal fine particles, are mentioned.

[0023] Among the above-mentioned depilatory object, if it is in thioglycolic acid, its salt, etc., the catabolic rate of a keratin is promoted under alkalinity and the effectiveness is demonstrated effectively. Therefore, when the drug concerned is used, it is desirable that it is the bottom alkalinity of humid. For this reason, it is desirable to blend an alkali into the pasting layer 12. As this alkali, a sodium hydroxide, a calcium hydroxide, triethanolamine, etc. are mentioned, for example. Although the amount to blend changes with alkalis to be used, it is desirable 9-13, and for pH of the pasting layer 12 of a final product to blend so that it may be desirably set to 10-12. It can be referred to as suitable pH of a depilatory object, when it is soaked in extent which can be moderately stuck on a skin side according to an anticipated-use method so that by adjusting to pH of this range may describe below. Moreover, if pH exceeds 13, since the stimulus to the skin will become large, it is not desirable. In addition, this pH can dissolve the pasting layer 12 in water, and can obtain it by measuring what was used as the water solution 10% of the weight with a commercial pH meter.

[0024] The water activation depilation sheet 10 concerning this invention is producible as follows. It applies to extent from which the pasting layer 12 of the water of optimum dose or/and a hydrophilic medium, and the thickness that, in addition to this, adds various kinds of additives if needed, is fully mixed, produces coating liquid, and asks for the coating liquid concerned is obtained in the process paper at the above-mentioned coat plasticity polymer or a depilatory object. And the laminating of the above-mentioned base material 11 is carried out, this thing is fully dried, and the pasting layer 12 is formed on a base material 11. If it is at this time when using the base material 11 which consists of a nonwoven fabric as described above, it is good to make it make some base materials 11 buried in the pasting layer 12. Thus, if it is made to make some base materials 11 buried, the anchoring force between a base material 11 and the pasting layer 12 will improve, and exfoliation residue after exfoliation (coat) can be lessened more.



[0025] Then, the water activation depilation sheet 10 which exfoliates process paper and is applied to this invention is obtained. Moreover, when the laminating of the separator 13 may be carried out and it uses a separator 13 on the pasting layer 12 concerned if needed so that it may mention later, on a separator 13, direct coating liquid can be applied and the pasting layer 12 can also be formed.

[0026] In this way, the pasting layer 12 of the obtained water activation depilation sheet 10 shows adhesiveness by the applied water or the hydrophilic medium, and after it applies the water of optimum dose etc. to the front face of the pasting layer 12 at the time of use or applies the water of optimum dose etc. to a pasting part, it is used for the water activation depilation sheet 10 concerned by it, sticking. At this time, with the applied water, the pasting layer 12 will once be in humidity or the condition of having dissolved, and a coat plasticity polymer will twine round hair uniformly. Moreover, the keratin in hair is dissolved by the depilatory object dissolved by the applied water, and hair is cut with it. In this way, the cut hair is incorporated in the coat formed by drying, and exfoliation removal is carried out with a base material 11 and a coat. Thus, it can be easily used also at the time of use, and it can remove hair comparatively, without also leaving exfoliation residue between short time.

[0027] As mentioned above, after sticking on a skin side, the water activation depilation sheet 10 concerning this invention exfoliates, and is used. For this reason, it must be made to have to remove the stuck depilation sheet 10 by a pawl etc. at the time of exfoliation, the pasting layer 12 sticks to a skin side, and it may be hard to remove, or, occasionally a skin side may be damaged by the pawl. Therefore, it is convenient to form the grasping section 14 by which the pasting layer 12 is not formed in the base material 11.

[0028] If it is in the water activation depilation sheet 10 shown in drawing 2, the grasping section 14 is formed in one edge of a base material 11. The grasping section 14 concerned can be easily formed by applying only to a predetermined field the coating liquid which consists of the above-mentioned coat plasticity polymer, a depilatory object, etc. Thus, if the grasping section 14 is formed, it can leave base material 11 part which is not stuck on a skin side, and a base material 11 can be held easily, without removing by a pawl etc. Therefore, the depilation sheet 10 can be exfoliated easily, without damaging a skin side.

[0029] Moreover, the laminating of the separator 13 is carried out on the pasting layer 12 of the water activation depilation sheet 10 concerned. Water or the hydrophilic medium which were used by the production process depending on the presentation of the pasting layer 12 may fully be evaporated, and it may have been tintured a little with adhesiveness. In this case, the laminating of the separator 13 is carried out from a viewpoint on storage etc. The separator 13 concerned is not limited especially if used as a separator 13 of large general pasting material, and metal films, such as plastic film, such as polyester, polyethylene, and polypropylene, and aluminum foil, other various films, sheets, etc. can be used for it. Moreover, even if it uses for paper of fine quality, glassine, the parchment papers, or these releasing papers the paper of fine quality which laminated polyethylene etc., it does not interfere.

[0030] The separator 13 concerned is produced in consideration of the ease of carrying out of not only the pasting layer 12 top but exfoliation more greatly than the pasting layer 12, and it is designed so that it may overflow above said grasping section 14. At this time, it is more desirable than a base material 11 to make it not become large so that wrapping may not become large superfluously. Therefore, at the time of exfoliation, it can have the flash part concerned, and can carry out at a burden small also in cost.

[0031] Moreover, you may prepare in the periphery section of a base material 11 like the water activation depilation sheet 10 which especially the location in which the above-mentioned grasping section 14 is formed is not limited, either, and you may make it prepare in the both ends of a base material 11 like the water activation depilation sheet 10 shown in drawing 3, or is shown in drawing 4.

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DESCRIPTION OF DRAWINGS

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[Brief Description of the Drawings]

[Drawing 1] It is the perspective view of the water activation depilation sheet which is the gestalt of 1 operation of this invention.

[Drawing 2] It is the perspective view of the water activation depilation sheet which is the gestalt of another operation of this invention.

[Drawing 3] It is the top view of the water activation depilation sheet which is the gestalt of still more nearly another operation of this invention.

[Drawing 4] It is the top view of the water activation depilation sheet which is the gestalt of still more nearly another operation of this invention.

[Description of Notations]

10 Water Activation Depilation Sheet Concerning this Invention

11 Hydrophobic Base Material Which Has Moisture Permeability

12 Pasting Layer Containing Coat Plasticity Polymer and Depilatory Object

13 Separator

14 Grasping Section

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[Translation done.]

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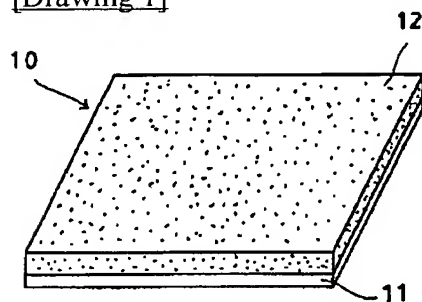
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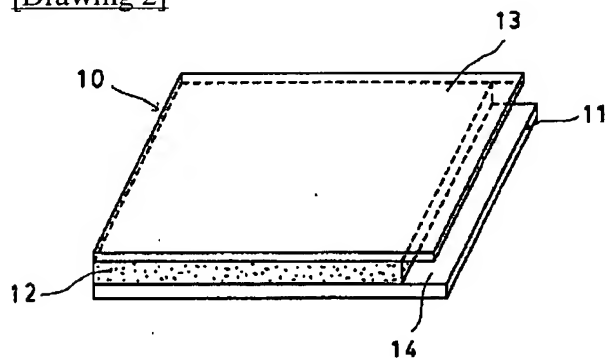
DRAWINGS

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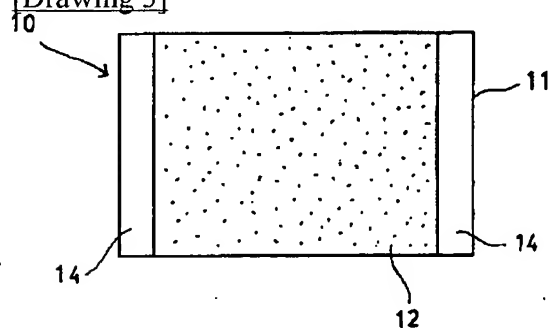
[Drawing 1]



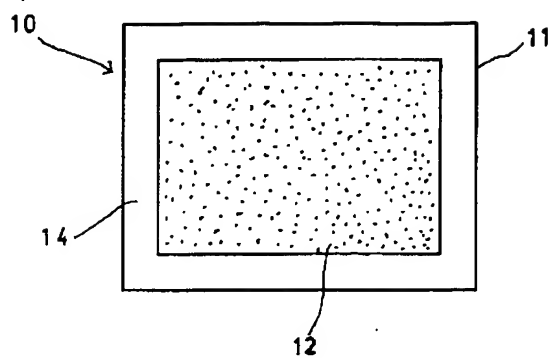
[Drawing 2]



[Drawing 3]



[Drawing 4]



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CLAIMS

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[Claim(s)]

[Claim 1] The water activation depilation sheet which has the hydrophobic base material which has moisture permeability, and a pasting layer containing a coat plasticity polymer and a depilatory object.

[Claim 2] Said hydrophobic base material is a water activation depilation sheet according to claim 1 which is a nonwoven fabric.

[Claim 3] The water activation depilation sheet according to claim 1 or 2 characterized by preparing the grasping section by which said pasting layer is not formed in said hydrophobic base material.

[Claim 4] The water activation depilation sheet according to claim 1, 2, or 3 with which the separator protruded above said grasping section is characterized by carrying out a laminating on said pasting layer.

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[Translation done.]